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**THE WIRELESS TELECOMMUNICATIONS BUREAU AND THE OFFICE OF
ENGINEERING AND TECHNOLOGY SEEK COMMENT ON PROGENY'S JOINT M-
LMS
FIELD TESTING REPORTS**

WT Docket No. 11-49

Comment Date: December 11, 2012

Reply Comment Date: January 11, 2013

Submitted by Great River Energy (GRE)

Great River Energy strongly opposes allowing Progeny LMS, LLC to use the 902-928 MHz band for licensed high-power transmitters. Utilities use these frequencies for unlicensed devices to augment licensed Supervisory and Data Acquisition (SCADA) networks and for communications to millions of smart meters for Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) which is crucial for smartgrid operations.

Great River Energy Background

Great River Energy is a not-for-profit generation and transmission electric cooperative owned by its 28 member distribution cooperatives. Those 28 member cooperatives in turn provide electrical service to approximately 1.7 million people in a 56,000-square-mile area from Minneapolis-St. Paul suburbs to very rural areas of the north shore of Lake Superior to the farmlands of southwestern Minnesota. The loads served by the member system are primarily residential, seasonal and agricultural loads. GRE owns and operates 12 power plants which generate more than 3,500 megawatts (MW) of electricity. GRE's generation capability is a

diverse mix of baseload and peaking power plants, including coal, refuse-derived fuel, natural gas and fuel oil, as well as wind generation.

GRE owns and operates nearly 4,600 miles of transmission lines and owns or partly owns 109 transmission substations. Additionally, GRE interfaces with 28 distribution cooperatives at over 500 distribution substations and has over 150 downline motor-operated switches to which it communicates. All substations and motor operated switches require telecommunications for Supervisory Control and Data Acquisition (SCADA). Additionally, the 28 member distribution cooperatives require telecommunications for Distribution Automation of downline switches, regulators, reclosers, and motor operated capacitor banks. They also use telecommunications for Advanced Metering Infrastructure (AMI) and Automated Meter Reading (AMR).

In addition to SCADA communications, GRE owns and operates a trunked land mobile radio system that is used for voice communications for GRE and 14 of its member distribution cooperatives. GRE also has a very extensive Load Management/Demand Response system that controls air conditioners, water heaters, electric heat storage and irrigation systems during peak electrical usage. This system has the capability of shaving over 380 MW of load from the system. GRE uses synchrophasors for wide area situational awareness. These synchrophasors require very low latency, highly reliable telecommunications.

General Comments

Great River Energy uses equipment in the 902 – 928 MHz unlicensed band to augment a statewide 700 MHz broadband SCADA network. Typically GRE uses the 700 MHz network to communicate to a substation. From the substation, 900 MHz unlicensed radios are used to communicate to downline motor operated devices such as remotely controlled switches,

regulators, and capacitor banks. These electrical devices are controlled and operated remotely and automatically in order to minimize outage times and to keep the electrical grid operating properly.

Since GRE is a generation and transmission company, it does not have individual consumer meters. However, the 28 distribution cooperatives to whom GRE provides power do have consumer meters. Some of these distribution cooperatives use or have plans to use equipment in the 902 – 928 MHz unlicensed band for AMR and AMI in building out their smart grid infrastructure.

Conclusion

By allowing a high powered user to operate in the band, the band becomes even less of an option for utilities. While utilities are already reluctant to use unlicensed spectrum for electrical grid operations, it is still used particularly in rural areas where interference is less likely. Utilities have millions of dollars invested in these networks and given the nature of the applications that use these networks, interference to them would be catastrophic.

Utilities have few options for wireless communications. Utilities do not have access to broadband spectrum and utilities are being asked to provide more communications and provide higher reliability and functionality to the electrical grid without having a provision for dedicated spectrum. By allowing a high powered users onto this highly used unlicensed spectrum, utilities lose one of the few communications options they have. It places the stability and integrity of the electric grid in jeopardy.

Respectfully submitted,

Great River Energy